

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently Amended) A method for performing time measurements
2 during instrumentation-based profiling, comprising:
3 measuring an overhead time, wherein the overhead time is the time
4 required to execute profiling instrumentation code in isolation measured through a
5 calibration procedure, ~~and~~ wherein the calibration procedure involves executing
6 the instrumentation code in a loop for a number of times, and wherein multiple
7 copies of the instrumentation code are included in the loop;
8 receiving a code to be profiled;
9 inserting the profiling instrumentation code in the code;
10 executing the code including the instrumented portions of the code;
11 measuring a time for executing the code including the instrumented
12 portions of the code; and
13 subtracting the overhead time from the measured time to obtain the time
14 for the code to be profiled.

1 2. (Original) The method of claim 1, wherein the code includes platform-
2 independent Java bytecodes.

1 3. (Cancelled)

1 4. (Original) The method of claim 3, wherein the profiling instrumentation
2 code is executed multiple times to determine an average value for the overhead
3 time.

1 5. (Original) The method of claim 4, wherein the profiling instrumentation
2 code includes method entry code that takes a first time measurement at the
3 beginning of a method, and method exit code that takes a second time
4 measurement at the end of the method, wherein the first and second time
5 measurements are used to calculate an execution time for the method.

1 6. (Original) The method of claim 5, wherein determining the overhead
2 time involves calculating an inner time $t_I = x_2 + y_1$, wherein y_1 is the time between
3 when the first time measurement is taken and when the method entry code is
4 finished executing, and wherein x_2 is the time between when the method exit code
5 begins executing and when the second time measurement is taken.

1 7. (Original) The method of claim 6, wherein the time t_{exact} for executing
2 instrumented portions of the code is calculated as $t_{exact} = t_{meas} - t_I$.

1 8. (Original) The method of claim 7, wherein if the method makes m calls
2 to other methods, the time for executing instrumented portions of the code
3 $t_{exact} = t_{meas} - t_I - mt_O$, wherein the outer time, $t_O = x_1 + y_2$, wherein x_1 is the time
4 between when the method entry code begins executing and when the first time
5 measurement is taken, and wherein y_2 is the time between when the second time
6 measurement is taken and when the method exit code is finished executing.

1 9. (Currently Amended) A computer-readable storage medium storing
2 instructions that when executed by a computer cause the computer to perform a

3 method for performing time measurements during instrumentation-based
4 profiling, wherein the computer-readable storage medium includes magnetic and
5 optical storage devices, disk drives, magnetic tape, CDs (compact discs), and
6 DVDs (digital versatile discs or digital video discs), the method comprising:
7 measuring an overhead time, wherein the overhead time is the time
8 required to execute profiling instrumentation code in isolation measured through a
9 calibration procedure, ~~and~~ wherein the calibration procedure involves executing
10 the instrumentation code in a loop for a number of times, and wherein multiple
11 copies of the instrumentation code are included in the loop;
12 receiving a code to be profiled;
13 inserting the profiling instrumentation code in the code;
14 executing the code including the instrumented portions of the code;
15 measuring a time for executing the code including the instrumented
16 portions of the code; and
17 subtracting the overhead time to obtain the time for the code to be profiled.

1 10. (Original) The computer-readable storage medium of claim 9, wherein
2 the code includes platform-independent Java bytecodes.

1 11. (Cancelled)

1 12. (Original) The computer-readable storage medium of claim 11,
2 wherein the profiling instrumentation code is executed multiple times to
3 determine an average value for the overhead time.

1 13. (Original) The computer-readable storage medium of claim 12,
2 wherein the profiling instrumentation code includes method entry code that takes
3 a first time measurement at the beginning of a method, and method exit code that

4 takes a second time measurement at the end of the method, wherein the first and
5 second time measurements are used to calculate an execution time for the method.

1 14. (Original) The computer-readable storage medium of claim 13,
2 wherein determining the overhead time involves calculating an inner time $t_I = x_2 +$
3 y_1 , wherein y_1 is the time between when the first time measurement is taken and
4 when the method entry code is finished executing, and wherein x_2 is the time
5 between when the method exit code begins executing and when the second time
6 measurement is taken.

1 15. (Original) The computer-readable storage medium of claim 14,
2 wherein the time t_{exact} for executing instrumented portions of the code is
3 calculated as $t_{exact} = t_{meas} - t_I$.

1 16. (Original) The computer-readable storage medium of claim 15,
2 wherein if the method makes m calls to other methods, the time for executing
3 instrumented portions of the code $t_{exact} = t_{meas} - t_I - mt_O$, wherein the outer time,
4 $t_O = x_1 + y_2$, wherein x_1 is the time between when the method entry code begins
5 executing and when the first time measurement is taken, and wherein y_2 is the
6 time between when the second time measurement is taken and when the method
7 exit code is finished executing.

1 17-24 (Canceled).